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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/611,290	07/06/2000	Patrizio Vinciarelli	00614-092002	4908

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EXAMINER

DINH, TUAN T

ART UNIT

PAPER NUMBER

2827

DATE MAILED: 09/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/611,290

Applicant(s)

VINCIARELLI ET AL.

Examiner

Tuan T Dinh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-28 and 30-39 is/are pending in the application.
- 4a) Of the above claim(s) 26-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because **the method claims are not selected in this application**. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 30-32 and 35-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Vinciarelli et al. (U. S. Patent 5,526,234).

Regarding claim 30, Vinciarelli discloses an apparatus as shown in figures 2-10 comprising:

an electronic device (packaging 11, column 3, line 58) having a surface (the surfaces of fences 29 of a PCB 17 within the electronic device 11) and a conductive termination (25a-25h, column 4, lines 18-30) on the surface;

a protective, conformal coating (50, column 6, lines 20-36), on the surface of the electronic device (11); and

a window (27f, column 5, lines 13-14) formed in the protective coating (50) to expose a portion of the conductive terminations (25a-25b, see figure 2 and 4A);

wherein the portion of the conductive termination is recessed in the conformal coating (figures 2 and 4A show the coating 50 having recesses so that the terminal pins extend through hole 27f of the device 11).

As to claim 31, Vinciarelli discloses the apparatus as shown in figure 4A wherein the coating (50) comprises a uniform thickness.

As to claim 32, Vinciarelli discloses the apparatus as shown in figure 4A wherein the coating (50) uniform to the geometric configuration of the electronic device.

As to claims 35-37, Vinciarelli discloses the apparatus as shown in figures 2-10 wherein the electronic device comprises an integrated power device (IPD), a semiconductor, or a power semiconductor (column 3, line 59, column 4, lines 1-2, and column 6, lines 38-40).

As to claim 38, Vinciarelli discloses the apparatus as shown in figures 2-10 wherein the window restrict the region of the termination to which solder can adhere, the exposed portion defining a location for solder bond (column 6, lines 56-62).

As to claim 39, Vinciarelli discloses the apparatus as shown in figures 3 and 4A wherein the electronic device (11) comprises a plurality of conductive terminations (25a-25b) and the conductive coating (50) comprises a plurality of windows (27f).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vinciarelli et al. ('234) in view of Sutrina (U. S. Patent 5,440,172).

Vinciarelli discloses all of the limitations of the claimed invention, except for the coating comprising a polymer, and the polymer comprises poly-para-xylylene.

Sutrina shows an apparatus in figures 1-3 comprising: a conformal coating made by xylylene polymer (column 3, lines 26-37, column 4, lines 45-49).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a conformal coating such as xylylene polymer, as taught by Sutrina, employ in the apparatus of Vinciarelli in order to provide a thermal energy dissipating of apparatus.

Response to Arguments

6. Applicant's arguments filed 02/21/03 have been fully considered but they are not persuasive.

Applicant argues:

Vinciarelli does not disclose "the portion of the conductive termination is recessed in the conformal coating."

Examiner disagrees.

Vinciarelli clearly shows in figures 2 and 4A that a portion of a conductive termination (25) recessed in a conformal coating (50), The recessed portion of the coating is within a broken line, see figure 4A for the conductive terminal extending through the device (11).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T Dinh whose telephone number is 703-306-5856. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on 703-305-9883. The fax phone numbers

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for the organization where this application or proceeding is assigned are 703-305-1341 for regular communications and 703-305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TD
August 12, 2003

John B. Vigushin
John B. Vigushin
Primary Examiner
GAU 2827